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Mojave Solar LLC

42134 Harper Lake Road Hinkley, California 92347 Phone: 760 308 0400

Submitted Electronically

Subject: 09-AFC-5C Condition Number: BIO 19

Description: Evaporation Pond Plan Quarterly Report for April 2024

Submittal Number: BIO19-132-00

May 21, 2024

Ashley Gutierrez, CPM
California Energy Commission
1516 Ninth Street
Sacramento, CA 95814
Ashley.Gutierrez@energy.ca.gov

Ms. Gutierrez,

Pursuant to Condition of Certification BIO-19, please find enclosed the Monthly Evaporation Pond Monitoring Report, for the of month April 2024. The installation of the netting for all four evaporation ponds completed by the end of April 2024. BIO-19 Plan states that reports will be provided quarterly if netting is used. Since all the ponds are netted, the BIO-19 report will be provided quarterly.

The raw digital data (MS Excel) is attached with the email.

Sincerely,

Mahnaz Ghamati

Quality, Environmental & Compliance Manager ASI Operations LLC

42134 Harper Lake Rd Hinkley, CA 92347 Cell: (760)498-0549

mahnaz.ghamati@atlantica.com

Attachments: Evaporation Pond Plan Monthly Report for April 2024, Raw digital data (MS Excel).

Quarterly Evaporation Pond Monitoring Report

For April 2024

Mojave Solar Project

09-AFC-5C

ASI Operations Mojave Solar LLC

42134 Harper Lake Road Hinkley, California 92347

Sean Rowe, Designated Biologist Rowe Ecological Consulting, LLC

PO Box 1018 Weldon, California 93283 Roweecological@gmail.com

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1 Introduction

The MSP facility has four evaporation ponds, two in Alpha (denoted as A-E and A-W for their respective east or west positions within the Alpha portion of the plant) and two in Beta (B-E and B-W) (Figure 1). The California Energy Commission (CEC), in Condition of Certification BIO-19, requires that prior to the operation of the evaporation ponds a final Evaporation Pond Monitoring and Adaptive Management Plan (Evaporation Pond Plan) be approved.

BIO-19 requires monthly reporting for the first year if a technology other than netting is used. Reporting may be reduced to quarterly thereafter if no bird or wildlife deaths are reported during the first year. After the first year, monthly monitoring will continue pending approval of the Evaporation Pond Plan with on-going communication between MSP and the CPM. The plan states that reports will be provided quarterly if netting is used. This report provides a summary of avian and non-avian monitoring at MSP's evaporation ponds and the Harper Lake Area of Critical Environmental Concern (ACEC). Final BIO19 Evaporation Pond Plan, BIO19-00-08 Evaporation Pond Monitoring and Adaptive Management Plan, Rev. 6. (Mojave Solar Project 09-AFC-5C) submittal approved on March 8, 2017.

2 Methods

2.1 Deterrent Deployment

The BIO-19 Evaporation Pond Monitoring and Adaptive Management Plan defines netting as the "final deterrent" and states that deterrents or netting will be used at the ponds. As such, the Eagle Eyes and BirdGard deterrents were removed from the ponds as each pond was netted.

- 1) Visual deterrents, Eagle Eyes were removed from each pond as netting commenced.
- 2) Audio deterrent, BirdGard was removed from each pond as netting commenced.

The specifications for the deterrent technologies are provided below:

• **Visual Deterrents (Eagle Eyes):** The Eagle Eye unit uses a reflective pyramid that rotates to reflect sunlight, creating a menacing pattern with the moving beams of light. The ever-changing light spectrum reflected by the Eagle Eye disorients birds in flight by significantly limiting their vision, causing them to deviate in flight and go elsewhere. The systems are either wind-powered or use a 12-volt electric battery to rotate the reflective pyramid. The battery may be charged by a small

- photovoltaic cell. It can be used to deter resident birds. Eight Eagle Eyes (4 red wind driven and 4 silver electrically driven) are installed around each pond perimeter (Figure 2) for total of 32 units installed at the four ponds.
- **BirdGard:** This device uses digital recordings of species-specific distress and alarm calls, along with the sounds of a bird's natural predators are broadcast through high fidelity weather-resistant speakers to convince birds they are under attack and drive them away.



Photo 1: Eagle Eye deterrent



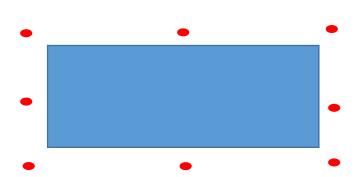


Figure 1. Layout of Eagle Eyes around each of the four ponds for a total of 32 Eagle Eyes.

BirdGard was implemented July 27, 2016, and the use of the propane cannons was discontinued. Due to the fatalities of a Mallard Duck in the Beta East evaporation pond on August 2nd and a California Gull in the Beta East evaporation pond on August 16th, adaptive management was triggered pursuant to BIO-19, for the 3rd quarter of 2016. On August 23rd, 2016, MSP requested CPM approval to modify the existing technology by changing the chip card that manages the sounds to avoid that the birds get comfortable or familiar with the kind of sounds emitted by the device (BIO19-22-00).

In an email received September 16, 2016, the CPM did not approve this proposal. MSP then, as per CPM recommendations, requested for approval on September 27th, to redeploy the cannons in addition to changing the chip card and keeping the Eagle Eyes, periodically rotating implementation of these technologies. MSP also proposed installing a water cannon system with high flow in all the ponds to hinder the birds from finding a proper spot in the ponds for perching or staying on the water. After observing the effects of the current evaporators in use at the Alpha ponds, this seems to be a working system for bird deterrents. On October 7th, 2016, CEC requested information by email on the water cannons; how many cannons per pond, how would they be triggered to go off, and which particular type of cannon would be installed. On October 11th, 2016, MSP sent an email response to CEC stating there would be 2 to 6 cannons deployed per pond, depending on final model and layout. They would go off automatically and would most likely be the Landshark model or a product similar to this.

A meeting was held on December 14, 2016, between MSP and CEC to discuss the proposed Adaptive Management. Topics discussed were the operation schedule of the

water cannons, time of year cannons are to be used, would cannons affect existing evaporators, water flow rates, power source, how many cannons per pond, how they would be turned on, and brand or model type. An email was sent by MSP on December 21st, 2016, answering all the questions the CEC had from the meeting. Final approval from the CEC received on February 27, 2017. As per the email received, "Staff approves the proposed adaptive management measure submitted on September 27, 2016. Please do not implement the final deterrents until the final Evaporation Pond Monitoring and Management Plan (BIO-19) is approved." and later confirmation from the CEC CPM, the expected date of implementation for the new deterrent is May 31, 2017. MSP asked for an extension on the implementation of the water cannon on 5/21/2017. Extension was granted until June 30th, 2017, on May 22, 2017. Due to the presence of nesting birds at the pond, MSP asked for and was granted another extension until August 31 to install the water cannons. The MSP DB determined that the risk to these nesting birds was too great to allow construction activities at the ponds until the chicks had fledged.

Placement of rental water cannons took place on Tuesday, August 2nd in Alpha West Pond and the units were tested for two weeks to assess coverage, efficiency, and numerous mechanical/technical parameters. Full deployment of the water cannons at all the ponds and thus daily Point Counts at the ponds and ACEC began on 10/10/2017. MSP suspended the use of the Water Cannons as per CEC communication dated November 3rd ("Staff directs Abengoa Mojave Solar to suspend use of the Landshark water cannons until further notice. Staff is reviewing the mortality reports to determine if the water cannons should continue to be used".

In an email dated 1/29/2018, the CEC staff directed the DB to halt the remaining deterrents "Just wanted to update you that a formal response to the Notification of Adaptive Management will be coming shortly. As stated previously, the final adaptive management trigger occurred on October 16 and 17, 2017 with the deaths of two western grebes at the Beta West evaporation pond. During our site visit on 1/24 we can discuss if halting use of the remaining deterrents is appropriate".

In an email received on February 5, 2018, the CEC staff stated: "BIO-19: I coordinated with USFWS regarding the BIO-19 question from the site visit regarding halting use of deterrents. The agencies recommend that MSP maintain and repair deterrents until we can make a determination about the netting. In general, deterrents may have some benefits to naive individuals (i.e., young or migrating individuals), so there may still be some benefit to the deterrence. If there are particular repairs or maintenance that is costly or requires significant resources, we can discuss whether they make sense."

In an email dated January 24, 2020, the CEC staff stated "Staff has discussed this with the USFWS, and they are in agreement that the ponds should be netted. MSP is advised that to remain in compliance with BIO-19 the project owner shall begin installation of netting at the evaporation ponds, per the requirements of BIO-19." "In addition, avian monitoring may be reduced to monthly, per the approved BIO-19 Plan, until the ponds are netted." The Mojave Solar Project (08-AFC-3C) Compliance Advice Letter For BIO-19, dated January 23, 2018, specifies that MSP has 60 days from notification to begin installation of netting. Accordingly, MSP planned to commence installation of netting at the ponds within the permitted period and avian monitoring will be reduced to monthly beginning February 2020.

Due to the COVID 19 pandemic, the CEC granted postponing the installation of the pond netting until the further notice. On May 21, 2021, because of the lifting of the "stay at home" order for San Bernardino County, CEC notified MSP of its intent to request that MSP initiate installation of the pond netting. CEC also requested additional information on the scope of work, design specifications, schedule, and status of nesting birds which MSP provided via email on May 26, 2021. Installation of netting on the Beta West Pond began in early September 2021 and was completed at the end of October 2021. Installation of netting at the remaining ponds was delayed due to issues with the netting contractor. Installation of netting on the Beta East Pond began in October and was completed in December 2023. Installation began on the Alpha ponds in December 2023 and was completed at the end of April 2024.

2.2 Monitoring

The Designated Biologist (DB) is responsible for ensuring that the CPM-approved avian monitors (avian monitors) are trained and qualified to implement the Evaporation Pond Plan requirements. Currently, all monitoring is performed by the DB.

2.2.1 Transect Survey Protocol

To improve the value of data collected, monitors started using a transect approach to survey avian activity, as directed by CPM starting November 1, 2016. Monitors slowly walk and/or drive the perimeter of each evaporation pond (approximately 30 minutes around each set of evaporation ponds) and record bird observations for individuals within the pond area as defined in the latest draft of the Evaporation Pond and Adaptive Management Plan. A slow pace will not significantly deter birds, because any present individuals are presumed tolerant of general site activity. Birds observed from the transect lines but occurring outside of the defined area of the evaporation ponds, will

not be recorded. Hard copy or electronic datasheets will be used to record observations at the evaporation ponds and ACEC (Appendix B).

During surveys, the avian monitor recorded the following information on observed species on a hard copy datasheet:

- Station identification number
- Date
- Survey start/stop time
- Observer
- Monitoring Purpose (daily or bi-weekly)
- Wildlife exclusion/deterrent technologies operation status (if applicable)
- Weather (including precipitation, temperature, wind, and percent cloud cover)
- Species (under rare conditions, e.g., low-light or backlighting or if bird is in a difficult to distinguish plumage phase or molting, the bird was identified to functional group)
- Functional group classification based on De Graaf et al. 1985
- Number of individuals
- Behavior (flythrough, flyover, foraging, nesting, perched, standing/walking, swimming/wading/diving, vocalization)
 - Nests are only documented in the surveys if they are "at the evaporation ponds" as defined by CPM emails dated February 19 and 25, 2015.
 - If the bird(s) were observed on a nest, the location was recorded using a global positioning system (GPS) unit.
 - If the bird(s) were found perching or nesting, detail was recorded pertaining to the type of perch (fence, trough, pond feature (measuring stick, outlet pipes), deterrent, machinery, other permanent feature, other temporary feature, transmission/power line, or vegetation.
- Location of observation
 - Distance and direction of the observation from the station
 - Pond (A-E, A-W, B-E, B-W) or ACEC
- Fatalities, injuries, or physical infirmities (e.g., birth defects or reduced growth)
- Special-status species (state or federally protected, excluding those species only protected under the Migratory Bird Treaty Act)

During this monitoring period, observed behaviors are defined to standardize interpretation:

- Flythrough is considered flying low through vicinity and interacting with site and or ponds.
- Flyover is considered passing overhead at distance and not interacting with site or ponds.
- Nesting activity is defined as active nest building, nest occupation, or dependent chicks. Nest inactivity is when the adults and fledglings are no longer dependent on the nest location.
- Perched is defined as above ground level.
- Standing/walking is defined as on ground level.
- Vocalizations where number of individuals cannot be confirmed are recorded as one individual.

Transect surveys were scheduled at times of high bird activity. Morning surveys began no later than one hour after sunrise and evening surveys ended within one hour of sunset. The order in which transects were surveyed was systematically rotated by surveying them in a different sequence or direction so transects were surveyed during different times throughout the morning or afternoon/evening survey period.

The BIO-19 Plan states that "description of avian activity at the ponds" is not required if the ponds are netted. Accordingly, transect surveys were discontinued during April 2024. Additional monitoring at the ponds will proceed as outlined in the Plan.

2.2.2 Incidental Daily Observations

During biological monitoring duties, the DB intermittently visited the evaporation ponds. During these visits, the DB made incidental observations of avian and non-avian wildlife. These observations were recorded in field notebooks. The DB then reports them to the agencies and project owner as necessary.

2.2.3 Other Monitoring

During transect surveys and incidental observations, biological staff monitored for the following BIO-19 adaptive management triggers: 1) dead birds at the evaporation ponds, 2) special-status animals at the evaporation ponds, and 3) noise levels attributable to the deterrent technology exceeding 60 dB at the Harper Lake ACEC wetlands. The DB reports observations to the project owner who determines whether

adaptive management under BIO-19 was triggered, and then reports it to the agencies as necessary.

If adaptive management is triggered, MSP has 10 days to notify the CPM of the incident and propose an adaptive management action to be implemented. Based on the approved Evaporation Pond Plan, MSP has 60 business days after CPM approval to acquire the proposed deterrent(s) and implement the adaptive management action.

Since netting the ponds was completed and netting is considered the "final deterrent option," "Other Monitoring" as described in this section is discontinued. Monitoring at the ponds will continue as outlined in Sec. 3.2.4 Monitoring If Netted of the BIO-19 Plan.

2.2.4 Monitoring If Netted

The BIO-19 Plan (Rev. 6, Sec. 3.2.4) states "If the ponds are netted, the DB or the CPM-approved avian biologist or monitor will monitor the ponds at least monthly to ensure that the netting is in place and functioning properly, and properly and record any avian/wildlife mortalities per section 3.2.4. They will also monitor the ponds after storm events when winds exceed 25 mph to ensure that the nets are in place and functioning properly."

MSP submitted Revision 8 of the plan on October 19 and CEC approved the revision on October 27, 2021. This revision included the following language for monitoring netted ponds: "In addition to monthly monitoring of the pond netting and avian mortalities, the DB or CPM-approved avian biologist will survey the ponds for birds that may have become trapped inside the netting and or stranded/injured on top of the netting during routine compliance visits and MSP personnel will similarly survey the netting during weekly evaporation pond inspections. Initially the ponds will be surveyed weekly at a minimum. If strandings/fatalities are found not to be an issue, this schedule may be reduced with approval of CEC."

3 Reporting Requirements

3.1 Monthly/Quarterly Reports

On November 12, 2014, the CEC instructed MSP to begin deploying deterrents. The CEC provided verbal and written direction to the Designated Biologists in November and December 2014 requesting a monthly monitoring report. This monthly report is in response to those requests and is consistent with the requirements of BIO-19, which require a monthly report for the first year of deterrent operation when a technology other than netting is used.

On June 26, 2015, MSP submitted a revised Evaporation Pond Plan (Revision 4.3) to the CPM for review and approval. Section 5, of that plan establishes the following reporting requirements, which are essentially the same as the Rev. 6 of the approved BIO-19, Evaporation Pond and Adaptive Management Plan:

If non-net technology is used, monthly monitoring reports will be prepared by the DB and/or CPM-approved avian biologist and submitted to the CEC for review. Reports will include a summary of monitoring activities, a description of avian and wildlife activity at the evaporation ponds, and any fatalities found in or around the evaporation ponds, and any adaptive management responses implemented or changes to deterrent deployment. In addition, reports will include all the raw data collected, including photocopies of data sheets completed during monitoring. Reports will also include a cumulative list of birds observed organized by bird family and include a notation identifying the season in which the bird was observed and whether the bird was observed at the ACEC or an evaporation pond (including pond identification). Water quality test results will be reported per the requirements of the DMP.

If netting is not used, monthly reports will be provided during the first year of operation of the ponds. Provisions are included in BIO-19 to reduce reporting to quarterly if no bird or wildlife deaths are reported during the first year. Consistent with this allowance, reports will be provided quarterly following any year where no bird or wildlife deaths are reported.

If netting is used, reports will be provided quarterly.

This report follows those reporting requirements.

On October 21st, 2016, CEC approved decreasing avian point counts from weekdays to weekly (once a week) and allowing fatality monitoring by Operations staff on other days (see below Section 3.2.3) according to Rev. 6 of the approved BIO-19, Evaporation Pond and Adaptive Management Plan:

3.2 Avian Monitoring Reduction

During the implementation of a new wildlife deterrent/exclusion technology, CPM-approved biologist or the biological monitors will monitor the evaporation ponds and Harper Lake ACEC wetlands once a week using transect surveys, or other protocol approved by the CPM. When weekday monitoring is required, weekend and holiday monitoring will be conducted by site staff (includes non-biologists) for fatalities only. If a carcass is discovered at a time when an approved biologist or monitor is not on-site, the site staff will document the

carcass, which includes photographing the carcass, and recording the standard information on the data sheets. If the carcass is on land, it will be covered with a cone or bucket and secured to ensure the carcass remains until an approved biologist or monitor is back on site and can properly identify and document it. If in the water, the staff person will record on a map where the carcass is located, take photos, and record other information on the standard data sheet, and notify the biological staff or ECM the same day of the finding. The next time the avian biologist is on-site, they will attempt to locate the carcass, identify it, and safely retrieve the carcass.

Once it is established that the new deterrent/exclusion technology does not disturb birds using the marsh, monitoring at the ACEC will be reduced to monthly.

Depending on the results of the daily monitoring at the ponds of new deterrents/ technologies, BIO-19 allows monitoring efforts to be decreased to weekly, bi-weekly or monthly. As discussed in Section 2.1 above, MSP reduced the monitoring frequency to monthly beginning February 2020.

The DB on site trained operations staff on how to conduct the fatality monitoring and paperwork required if a carcass was found. As applicable, operations staff texts or emails results to the DB with results of the day's monitoring.

3.3 Water Quality

Beginning April 2020, MSP discontinued water sample collection as requested, due to the netting installation. The CEC granted this request on March 12, 2020. In an email dated August 9, 2021, CEC directed MSP to resume "water quality monitoring per the approved BIO-19 Plan until netting installation is complete at each pond." Monthly water quality sampling resumed in September 2021 and discontinued in April 2024 as the pond netting was completed.

Ninyo & Moore is under contract to conduct water quality testing in accordance with the Detection Monitoring Program and Ground Water Monitoring Plan (Ninyo & Moore 2016). Therefore, the water quality data for this period is being reported by Ninyo & Moore under separate cover.

4 Monitoring Results

4.1 Evaporators

On June 27th, 2016, three evaporators were deployed into the Alpha West evaporation pond. A small control house was installed on the shore of the southwest corner of the pond, inside of the pond perimeter fence. The evaporator units were initially situated on the far west side of the Alpha West Pond, about 15 meters from the west shoreline.

On June 29, 2016, the evaporators were tested by the supplier and by MSP staff. On June 30th, MSP began operating the evaporators. Since initiating the evaporators, MSP has reconfigured the three evaporators multiple times, in attempts to reduce overspray from escaping the pond liner and optimize evaporation. The relative positions of the evaporators changed in April with the removal of one evaporator from Alpha-West evaporation pond and its placement, along with a new evaporator, into Alpha-East evaporation pond.

On June 5th, 2017, four new evaporators began operating on Beta West and Beta East ponds (two on each pond). The operational parameters used for the evaporators on Alpha ponds were incorporated for the operation of the evaporators on Beta ponds.

The evaporator control house has a weather gauge that reads three factors: temperature, wind, and humidity. The evaporators shut down if any of the three factors exceed specific levels that lower evaporation efficiency. The evaporators were removed from the Beta West Pond in September 2021 as netting installation commenced. The evaporators and associated control houses were removed from Beta East in October 2023 and from the Alpha ponds in November 2023 as netting of the ponds commenced.

MSP communicated with CEC regarding the use of SMI Super Polecat Evaporators to replace the existing evaporators when the ponds are netted. CEC approved their use in a letter dated 3/17/23. MSP deployed one Polecat evaporator at the Alpha East Pond in early August 2023 to test its effectiveness. The evaporator is contained inside a chain link cage covered with the same 1" mesh netting used to cover the beta pond. Due to the pond water conditions, the evaporator could only be operated for approximately one week before needing maintenance. As a result, MSP deployed an additional evaporator at the alpha east pond so that one was operational while the other was down for maintenance. MSP staff and the DB monitored the evaporators to ensure that birds did not become trapped in the netted enclosures. Birds avoided the evaporators while they were operating. After testing the Polecat evaporators, MSP determined that they were not suitable for use due the high level of maintenance necessary to keep

them operational. The Polecat evaporators were removed from the Alpha ponds in November 2023.

Subsequently, MSP communicated with CEC regarding the use of PittBoss Sprayer-less Evaporators to replace the existing evaporators when the ponds are netted. In a letter dated December 22, 2023, CEC approved the use of the PittBoss evaporators. In February 2024, MSC installed four PittBoss evaporators in the alpha east pond (see photos).



Photos 3&4: Location and close-up of PittBoss Sprayer-less Evaporators installed in the Alpha East Pond.

The CEC instructed MSP to monitor the effects that the evaporators have on birds. To date, birds have not been observed interacting with them.

4.2 Deterrent Deployment

CPM Dale Rundquist sent an email on May 13th, 2016, approving MSP's BIO-19 Adaptive Management request to install BirdGard at the evaporation ponds. MSP installed BirdGard on July 27th, within 60-days after CPM approval (May 13th). The propane cannon deterrents were replaced by the installation of BirdGard.

The BirdGard and Eagle Eyes were removed from the ponds to accommodate the installation of the netting at each pond.

4.3 Transect Surveys & Fatality Monitoring

Transect surveys were discontinued as the ponds were netted.

The ponds were surveyed at least monthly by the DB and weekly by the DB and/or MSP personnel for fatalities and trapped, stranded, and/or injured birds.

No avian fatalities or trapped/stranded/injured birds during routine surveys or incidentally at the ponds during the reporting period.

The DB surveyed the ponds for nesting birds at least once a week beginning in February to ensure that netting installation does not impact nesting birds. Very few birds were observed using the ponds during the month of April and no sign of nesting was observed.

4.4 Pond Netting

Netting over Beta West Pond was completed in October 2021. Installation of netting on the remaining ponds was scheduled to begin in early January 2023. In February 2023 MSP became aware that the netting contractor was lacking critical California documentation to be able to work at the site and suspended the project until the contractor provides the necessary documents. MSP informed CEC, USFWS, and the DB about the unexpected obstacles with the netting project on February 10th and requested an extension to complete the netting after the bird breeding season. MSP subsequently contracted with a new netting contractor.

Installation of netting on the Beta East Pond began in October 2023 and was completed in late December. The netting contractor began installation of the posts around the Alpha ponds in November in order to remain on schedule while awaiting delivery of the netting. Installation on the Alpha West Pond was completed at the end of March 2024 and at the Alpha East Pond at the end April 2024.

The DB and/or MSP personnel conducted weekly inspections of the netting at each of the ponds for holes or tears and for fatalities or strandings associated with the netted pond. No live stranded birds or fatalities associated with the netting were observed during the reporting period.

4.5 Lake Tank Water Storage

In January 2024, CEC issued an authorization to MSP for the installation and use of eight Lake Tank water storage tanks. Two tanks have been installed in Alpha power block area and two in the Beta power block area. Two additional tanks are currently being installed in Alpha east, east of the evaporation ponds and two in Alpha west. The tanks are netted to comply with BIO-19 and are being monitored by the DB to ensure that wildlife do not become entangled in the netting or trapped in the tanks. To date there have been no issues and wildlife have not been observed interacting with the tanks.

4.6 Water Quality

Ninyo & Moore will provide (under separate cover) the results of routine water quality testing conducted in accordance with the Detection Monitoring Program and Ground Water Monitoring Plan.

5 Conclusion and Recommendation

Netting of the ponds as a final deterrent was completed during April 2024. To date netting has shown to be an effective deterrent effectively reducing avian fatalities. MSP will continue to monitor the ponds to determine if netting results in other adverse impacts such as strandings, entrapment or injuries.

6 References

California Energy Commission (CEC). 2010. Abengoa Mojave Solar Project Commission Decision CEC-800-2010-008-CMF. September 2010.

Mojave Solar Project (MSP). 2016. BIO-19, Evaporation Pond Monitoring and Adaptive Management Plan (revision 6). March 2017.

MSP and Ironwood Consulting. 2015. Monthly Evaporation Pond Monitoring Report for November 2015 through November 2016.

MSP. 2017-2023. Monthly Evaporation Pond Monitoring Report for December 2016, through December 2023.

Ninyo & Moore. 2017. Revised Detection Monitoring Program, California Energy Commission, Mojave Solar Project, San Bernardino County, California.



Enthalpy Analytical 931 West Barkley Ave Orange, CA 92868 (714) 771-6900

enthalpy.com

Lab Job Number: 505821

Report Level : II

Report Date : 04/16/2024

Analytical Report prepared for:

Mahnaz Ghamati Mojave Solar LLC 42134 Harper Lake Road Hinkley, CA 92347

Project: POND SAMPLING

Authorized for release by:

Zach Barker, Project Manager zach.barker@enthalpy.com

This data package has been reviewed for technical correctness and completeness. Release of this data has been authorized by the Laboratory Manager or the Manager's designee, as verified by the above signature which applies to this PDF file as well as any associated electronic data deliverable files. The results contained in this report meet all requirements of NELAP and pertain only to those samples which were submitted for analysis. This report may be reproduced only in its entirety.

CA ELAP# 1338, NELAP# 4038, SCAQMD LAP# 18LA0518, LACSD ID# 10105



Sample Summary

Mahnaz Ghamati Lab Job #: 505821

Mojave Solar LLC Project No: POND_SAMPLING

42134 Harper Lake Date Received: 04/05/24 Road

Hinkley, CA 92347

Sample ID	Lab ID	Collected	Matrix
ALPHA WEST POND	505821-001	04/04/24 11:20	Water
ALPHA EAST POND	505821-002	04/04/24 11:30	Water



Case Narrative

Mojave Solar LLC 42134 Harper Lake Road Hinkley, CA 92347 Mahnaz Ghamati

Lab Job 505821

Number:

Project No: POND_SAMPLING

Date Received: 04/05/24

This data package contains sample and QC results for two water samples, requested for the above referenced project on 04/05/24. The samples were received cold and intact.

Metals (EPA 6020 and EPA 7470A):

No analytical problems were encountered.

Metals (EPA 200.7):

- High RPD was observed for calcium in the MS/MSD of ALPHA EAST POND (lab # 505821-002).
- No other analytical problems were encountered.

Ion Chromatography (EPA 300.0):

- Response exceeding the instrument's linear range was observed for sulfate in the MS for batch 337104; affected data was qualified with "E".
- No other analytical problems were encountered.

Total Phosphorus as P (SM 4500-P-B5-E):

No analytical problems were encountered.

Alkalinity (SM2320B):

No analytical problems were encountered.

Total Dissolved Solids (TDS) (SM2540C):

No analytical problems were encountered.

Ammonia and TKN- Semi-Automated Method (SM 4500-NH3-G):

- The matrix spike(MS) and matrix spike duplicate(MSD) recoveries for the following samples 505849-003 were outside
 recovery limits. Matrix interference and/or non-homogeneity are suspected. The Laboratory control sample (LCS)
 recovery limit was within limits and data has been reported.
- · No analytical problems were encountered.

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		A	NALY	TI	C	AL	Page:	1	of		1		2 Da	ay:					1 Da	ıy:			Custo	m TAT		
Γ		Ent	halpy Analytical - C	range				A = Air S = S	100000								N-		serv			INIO	Sam	ple Re	eipt Temp) :
ı		931 W	. Barkley Avenue, Orange,	CA 92868	W = Water DW = Drinking Water PP = Pure Product SEA = Sea Wa							Sedir	nent					72 12			3 = H	-C10"				
L			Phone 714-771-6900				9 30 3027000	ab T = Tissu				= 01	ther					88						(lab us	e only)	
		CUSTOMI	ER INFORMATION	F		PROJ	JECT INFO	RMATION					Ana	lysis	Req	uest					Test	Instru	ction	s / Com	ments	
Co	mpany:	Mojave Sola	ar		Nam	ie:	Mojave So	lar																		
Re	port To:	Mahnaz Gh	amati		Num	ber:	408-466-6	715																		
Em	nail:	mahnaz.g	hamati@atlantica.co	<u>m</u>	P.O.	#:	450093773	31																		
Add	dress:	42134 Harp	er lake Rd		Addr	ress:																				
		Hinkley, CA	*													a	-Z									
Pho	one:	760-308-043	18		Glob	al ID:				ې	۳		,,			Ca, Fe	Mercury									
Fax	c :				Samp	pled By:	Ali Assadi			NH3	P-85	_	C-TD			B										
		Sample	e ID	Sampling Date	g	Sampling Time	Matrix	Container No. / Size	Pres.	SM4500-NH3-G	SM4500 P-B5-E	SM2320B	SM2540C-TDS	EPA6020	EPA 300	EPA 200.7	EPA 7470A,									
1	Alpha West	Pond		04/04/24	4	11120	w	4	3,4	Х	-	Х	Х	Х	Х	Х	Х			pH:	8-3(T°C:	9.5	EC:	41.8	
2	Alpha East P	ond		04/04/24	$\overline{}$	11:30	w	4	3,4	Х	Х	Х	х	Х	Х	Х	Х								12.4	
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² Re	eceived By:																									
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3 Re	ceived By:																									



SAMPLE ACCEPTANCE CHECKLIST

Section 1		DOMESTICA DE LA COMPENSA		
Client: Mojave Solar	Project:			
Date Received: 4/5/24	Sampler's Name Present:	/ Yes	No	
Section 2				
Sample(s) received in a cooler? ✓ Yes, How many? 1	No (skip section 2)		e Temp (°C) (No Cooler)	
Sample Temp (°C), One from each cooler: #1: 1.4			(NO COOIEI)	
(Acceptance range is < 6° C but not frozen (for Microbiology samples, accepta			for sample	s collected
the same day as sample receipt to have a higher temperate Shipping Information:	ure as long as there is evidence that coo	ing has beg	un.)	
Section 3				
Was the cooler packed with: ✓ Ice	Bubble Wrap Styrof	oam		
Paper None	Other			
Cooler Temp (°C): #1: <u>0.6</u> #2:	#3:	#4:		
Section 4		YES	NO	N/A
Was a COC received?		✓		
Are sample IDs present?		✓		
Are sampling dates & times present?		✓		
Is a relinquished signature present?		✓		
Are the tests required clearly indicated on the COC?		✓		
Are custody seals present?			✓	
If custody seals are present, were they intact?				✓
Are all samples sealed in plastic bags? (Recommended fo				✓
Did all samples arrive intact? If no, indicate in Section 4 b		✓		
Did all bottle labels agree with COC? (ID, dates and times		✓		
Were the samples collected in the correct containers for		✓		
Are the containers labeled with the correct preserv		✓		
Is there headspace in the VOA vials greater than 5-6 mm				✓
Was a sufficient amount of sample submitted for the req	uested tests?	✓		
Section 5 Explanations/Comments		MOREOUS MINISTERIO SE		
Section 6		Section Presidents		
For discrepancies, how was the Project Manager notified	2 DV			
ror discrepancies, now was the Project Manager notified				
Project Manager's response:	Email (email sent to/o	n)	/	
Troject Manager's response.				
Completed By Helline Swing Tun.	APR 05 202	Δ		

Enthalpy Analytical, a subsidiary of Montrose Environmental Group ,Inc.
931 W. Barkley Ave, Orange, CA 92868 • T: (714) 771-6900 • F: (714) 538-1209

www.enthalpy.com/socal

Sample Acceptance Checklist – Rev 4, 8/8/2017

View/Print Label

- 1. Ensure there are no other shipping or tracking labels attached to your package. Select the Print button on the print dialogue box that appears. Note: If your browser does not support this function, select Print from the File menu to print the label.
- 2. **Fold the printed label at the solid line below.** Place the label in a UPS Shipping Pouch. If you do not have a pouch, affix the folded label using clear plastic shipping tape over the entire label.

3. GETTING YOUR SHIPMENT TO UPS

Customers with a scheduled Pickup

• Your driver will pickup your shipment(s) as usual.

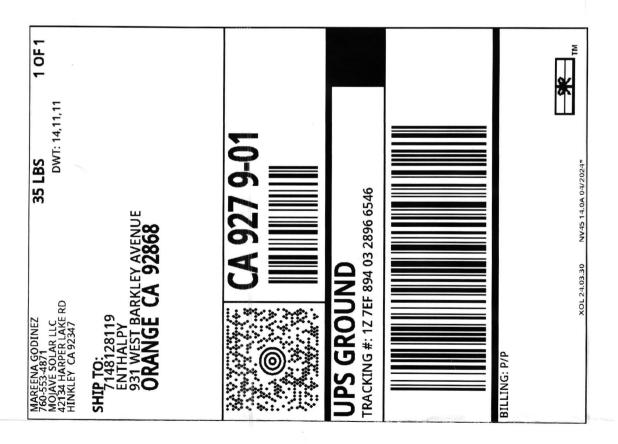
Customers without a scheduled Pickup

- Take your package to any location of The UPS Store®, UPS Access Point(TM) location, UPS Drop Box, UPS Customer Center, Staples® or Authorized Shipping Outlet near you. To find the location nearest you, please visit the 'Locations' Quick link at ups.com.
- Schedule a Pickup on ups.com to have a UPS driver pickup all of your packages.





FOLD HERE





Mahnaz Ghamati Mojave Solar LLC 42134 Harper Lake Road Hinkley, CA 92347

Lab Job #: 505821 Project No: POND_SAMPLING Date Received: 04/05/24

Sample ID: ALPHA WEST POND	Lab ID: 505821-001	Collected: 04/04/24 11:20
	Matrix: Water	

			Matri	x: wa	ter			
505821-001 Analyte	Result	Qual Unit	s RL	DF	Batch	Prepared	Analyzed	Chemis
Method: EPA 200.7 Prep Method: EPA 3015A						-	· · · · · · · · · · · · · · · · · · ·	
Boron	110	mg/l	5.0	100	337318	04/09/24	04/10/24	RPS
Calcium	520	mg/l	0.10	1	337318	04/09/24	04/09/24	RPS
Iron	0.021	mg/l	0.020	1	337318	04/09/24	04/09/24	RPS
Method: EPA 300.0 Prep Method: METHOD								
Fluoride	ND	mg/l	20	100	337104	04/05/24 15:09	04/05/24 21:44	JAA
Chloride	67,000	mg/l	1,000	1000	337104	04/05/24 15:09	04/05/24 22:07	JAA
Nitrogen, Nitrite	ND	mg/l	_ 10	100	337104	04/05/24 15:09	04/05/24 21:44	JAA
Bromide	150	mg/l	_ 30	100	337104	04/05/24 15:09	04/05/24 21:44	JAA
Nitrogen, Nitrate	ND	mg/l	_ 10	100	337104	04/05/24 15:09	04/05/24 21:44	JAA
Sulfate	38,000	mg/l	1,000	1000	337104	04/05/24 15:09	04/05/24 22:07	JAA
Method: EPA 6020 Prep Method: EPA 3015A								
Antimony	ND	ug/L	. 100	50	337232	04/08/24	04/08/24	RPS
Arsenic	ND	ug/L	. 100	50	337232	04/08/24	04/08/24	RPS
Barium	ND	ug/L	. 250	50	337232	04/08/24	04/08/24	RPS
Beryllium	ND	ug/L	. 50	50	337232	04/08/24	04/09/24	RPS
Cadmium	ND	ug/L	. 50	50	337232	04/08/24	04/08/24	RPS
Chromium	ND	ug/L	. 250	50	337232	04/08/24	04/08/24	RPS
Cobalt	ND	ug/L	. 50	50	337232	04/08/24	04/08/24	RPS
Copper	ND	ug/L	. 150	50	337232	04/08/24	04/08/24	RPS
Lead	ND	ug/L	. 250	50	337232	04/08/24	04/08/24	RPS
Molybdenum	1,600	ug/L	. 250	50	337232	04/08/24	04/09/24	RPS
Nickel	ND	ug/L	. 250	50	337232	04/08/24	04/08/24	RPS
Selenium	ND	ug/L	. 100	50	337232	04/08/24	04/08/24	RPS
Silver	ND	ug/L	. 250	50	337232	04/08/24	04/08/24	RPS
Thallium	ND	ug/L	. 50	50	337232	04/08/24	04/08/24	RPS
Vanadium	ND	ug/L	. 250	50	337232	04/08/24	04/08/24	RPS
Zinc	ND	ug/L	. 500	50	337232	04/08/24	04/08/24	RPS
Method: EPA 7470A Prep Method: METHOD								
Mercury	ND	ug/L	0.40	1	337203	04/08/24	04/09/24	KAM
Method: SM 4500-NH3-G								
Ammonia-N	ND	mg/l	0.10	1	337504	04/14/24	04/14/24	JTS
Method: SM 4500-P-B5-E		······································						
Phosphorus	1.6	ma/l	0.080	4	337531	04/11/24	04/15/24	JAK
•	1.0	mg/l	_ 0.060	4	33/331	U4/11/24	04/15/24	JAN
Method: SM2320B Prep Method: METHOD								
Bicarbonate	160	mg/l		5	337128	04/05/24	04/05/24	WWC
Carbonate	310	mg/l	- 6.0	5	337128	04/05/24	04/05/24	WWC



505821-001 Analyte	Result	Qual	Units	RL	DF	Batch	Prepared	Analyzed	Chemist
Hydroxide	ND		mg/L	3.5	5	337128	04/05/24	04/05/24	WWC
Alkalinity, Total as CaCO3	650		mg/L	10	5	337128	04/05/24	04/05/24	WWC
Method: SM2540C Prep Method: METHOD									
Total Dissolved Solids	130,000		mg/L	100	10	337161	04/09/24	04/10/24	DXA



Sample ID: ALPHA EAST POND Lab ID: 505821-002 Collected: 04/04/24 11:30

Matrix: Water

505821-002 Analyte	Result	Qual U	nits	RL	DF	Batch	Prepared	Analyzed	Chemis
Method: EPA 200.7 Prep Method: EPA 3015A									
Boron	160		ıg/L	5.0	100	337318	04/09/24	04/10/24	RPS
Calcium	480		ıg/L	0.10	1	337318	04/09/24	04/09/24	RPS
Iron	0.031	m	ıg/L	0.020	1	337318	04/09/24	04/09/24	RPS
Method: EPA 300.0 Prep Method: METHOD									
Fluoride	ND	m	ıg/L	20	100	337104	04/05/24 15:09	04/05/24 22:29	JAA
Chloride	88,000	m	ıg/L	1,000	1000	337104	04/05/24 15:09	04/05/24 22:52	JAA
Nitrogen, Nitrite	ND	m	ıg/L	10	100	337104	04/05/24 15:09	04/05/24 22:29	JAA
Bromide	190	m	ıg/L	30	100	337104	04/05/24 15:09	04/05/24 22:29	JAA
Nitrogen, Nitrate	ND	m	ıg/L	10	100	337104	04/05/24 15:09	04/05/24 22:29	JAA
Sulfate	14,000	m	ıg/L	1,000	1000	337104	04/05/24 15:09	04/05/24 22:52	JAA
Method: EPA 6020 Prep Method: EPA 3015A									
Antimony	ND	u	g/L	100	50	337225	04/08/24	04/08/24	DXC
Arsenic	ND	u	g/L	100	50	337225	04/08/24	04/08/24	DXC
Barium	380	u	g/L	250	50	337225	04/08/24	04/08/24	DXC
Beryllium	ND	u	g/L	50	50	337225	04/08/24	04/08/24	DXC
Cadmium	ND	u	g/L	50	50	337225	04/08/24	04/08/24	DXC
Chromium	ND	u	g/L	250	50	337225	04/08/24	04/08/24	DXC
Cobalt	ND	u	g/L	50	50	337225	04/08/24	04/08/24	DXC
Copper	ND	u	g/L	150	50	337225	04/08/24	04/08/24	DXC
Lead	ND	u	g/L	250	50	337225	04/08/24	04/08/24	DXC
Molybdenum	2,000	u	g/L	250	50	337225	04/08/24	04/09/24	DXC
Nickel	ND	u	g/L	250	50	337225	04/08/24	04/08/24	DXC
Selenium	ND	u	g/L	100	50	337225	04/08/24	04/08/24	DXC
Silver	ND	u	g/L	250	50	337225	04/08/24	04/08/24	DXC
Thallium	ND	u	g/L	50	50	337225	04/08/24	04/08/24	DXC
Vanadium	ND	u	g/L	250	50	337225	04/08/24	04/08/24	DXC
Zinc	ND	u	g/L	500	50	337225	04/08/24	04/08/24	DXC
Method: EPA 7470A Prep Method: METHOD									
Mercury	ND	u	g/L	0.40	1	337203	04/08/24	04/09/24	KAM
Method: SM 4500-NH3-G									
Ammonia-N	0.16	m	ıg/L	0.10	1	337362	04/14/24	04/14/24	JTS
Method: SM 4500-P-B5-E			· 3 [,] –						
	1.4		na/I	0.080	4	337531	04/11/24	04/15/24	JAK
Phosphorus	1.4		ıg/L	0.060	- 4	33/331	04/11/24	04/15/24	JAN
Method: SM2320B Prep Method: METHOD									
Bicarbonate	ND		ıg/L	12	5	337128	04/05/24	04/05/24	WWC
Carbonate	11		ıg/L	6.0	5	337128	04/05/24	04/05/24	WWC
Hydroxide	160		ıg/L	3.5	5	337128	04/05/24	04/05/24	WWC
Alkalinity, Total as CaCO3	480	m	ıg/L	10	5	337128	04/05/24	04/05/24	WWC
Method: SM2540C Prep Method: METHOD									
Total Dissolved Solids	170,000	m	ıg/L	100	10	337161	04/09/24	04/10/24	DXA



505821-002 Analyte	Result Qual	Units	RL	DF	Batch	Prepared	Analyzed	Chemist

ND Not Detected



Type: Blank Lab ID: QC1143037 Batch: 337318

Matrix: Water Method: EPA 200.7 Prep Method: EPA 3015A

QC1143037 Analyte	Result	Qual	Units	RL	Prepared	Analyzed
Boron	ND		mg/L	0.050	04/09/24	04/09/24
Calcium	ND		mg/L	0.10	04/09/24	04/09/24
Iron	ND		mg/L	0.020	04/09/24	04/09/24

Type: Lab Control Sample Lab ID: QC1143038 Batch: 337318

Matrix: Water Method: EPA 200.7 Prep Method: EPA 3015A

QC1143038 Analyte	Result	Spiked	Units	Recovery Qual	Limits
Boron	0.4190	0.4000	mg/L	105%	85-115
Calcium	20.47	20.40	mg/L	100%	85-115
Iron	0.4040	0.4000	mg/L	101%	85-115

Type: Matrix Spike Lab ID: QC1143039 Batch: 337318

Matrix (Source ID): Water (505821-001) Method: EPA 200.7 Prep Method: EPA 3015A

Source Sample Recovery QC1143039 Analyte Result Result **Spiked** Units Qual Limits DF 116.3 470% 75-125 Boron 114.4 0.4000 mg/L NM 100 Calcium 457.6 523.4 20.40 mg/L -323% NM 75-125 1 0.3631 0.02111 0.4000 85% 75-125 Iron mg/L 1

Type: Matrix Spike Duplicate Lab ID: QC1143040 Batch: 337318

Matrix (Source ID): Water (505821-001) Method: EPA 200.7 Prep Method: EPA 3015A

Source Sample **RPD** QC1143040 Analyte Result Result **Spiked** Units Recovery Qual Limits **RPD** Lim DF Boron 106.5 0.4000 mg/L -1967% NM 75-125 20 100 114.4 9 Calcium 523.2 NM 75-125 20 523.4 20.40 mg/L -1% 13 1 0.3613 0.02111 0.4000 85% 75-125 20 1 Iron mg/L 0

Type: Matrix Spike Lab ID: QC1143041 Batch: 337318

Matrix (Source ID): Water (505821-002) Method: EPA 200.7 Prep Method: EPA 3015A

Source Sample QC1143041 Analyte DF Result Result **Spiked** Units Recovery Qual Limits Boron 0.4000 75-125 140.0 161.9 mg/L -5493% NM 100 Calcium 537.3 20.40 276% NM 75-125 481.0 mg/L 1 0.3669 0.4000 84% 75-125 Iron 0.03079 mg/L 1



Type: Matrix Spike Duplicate Lab ID: QC1143042 Batch: 337318

Matrix (Source ID): Water (505821-002) Method: EPA 200.7 Prep Method: EPA 3015A

004440040 4 1	D !!	Source Sample	0.111	11.20	D	0 1		222	RPD	D E
QC1143042 Analyte	Result	Result	Spiked	Units	Recovery	Qual	Limits	RPD	Lim	DF
Boron	141.8	161.9	0.4000	mg/L	-5032%	NM	75-125	1	20	100
Calcium	431.3	481.0	20.40	mg/L	-244%	NM	75-125	22*	20	1
Iron	0.3696	0.03079	0.4000	mg/L	85%		75-125	1	20	1

Type: Blank Lab ID: QC1142281 Batch: 337104

Matrix: Drinking Water Method: EPA 300.0 Prep Method: METHOD

QC1142281 Analyte	Result (Qual Units	RL	Prepared	Analyzed
Fluoride	ND	mg/L	0.20	04/05/24 15:09	04/05/24 16:07
Chloride	ND	mg/L	1.0	04/05/24 15:09	04/05/24 16:07
Nitrogen, Nitrite	ND	mg/L	0.10	04/05/24 15:09	04/05/24 16:07
Bromide	ND	mg/L	0.30	04/05/24 15:09	04/05/24 16:07
Nitrogen, Nitrate	ND	mg/L	0.10	04/05/24 15:09	04/05/24 16:07
Sulfate	ND	mg/L	1.0	04/05/24 15:09	04/05/24 16:07

Type: Lab Control Sample Lab ID: QC1142282 Batch: 337104

Matrix: Drinking Water Method: EPA 300.0 Prep Method: METHOD

QC1142282 Analyte	Result	Spiked	Units	Recovery Qual	Limits
Fluoride	9.714	10.00	mg/L	97%	90-110
Chloride	48.13	50.00	mg/L	96%	90-110
Nitrogen, Nitrite	4.488	4.567	mg/L	98%	90-110
Bromide	14.92	15.00	mg/L	99%	90-110
Nitrogen, Nitrate	4.537	4.518	mg/L	100%	90-110
Sulfate	25.08	25.00	mg/L	100%	90-110

Type: Matrix Spike Lab ID: QC1142285 Batch: 337104

Matrix (Source ID): Water (505749-001) Method: EPA 300.0 Prep Method: METHOD

QC1142285 Analyte	Result	Source Sample Result	Spiked	Units	Recovery	Qual	Limits	DF
Fluoride	20.33	0.2271	20.00	mg/L	101%		80-120	1
Chloride	345.2	276.1	100.0	mg/L	69%	E,NM	80-120	1
Nitrogen, Nitrite	8.838	ND	9.134	mg/L	97%		80-120	1
Bromide	16.35	0.6077	15.00	mg/L	105%		80-120	1
Nitrogen, Nitrate	10.95	1.599	9.036	mg/L	103%		80-120	1
Sulfate	100.6	52.20	50.00	mg/L	97%	E	80-120	1



Type: Matrix Spike Duplicate Lab ID: QC1142286 Batch: 337104

Matrix (Source ID): Water (505749-001) Method: EPA 300.0 Prep Method: METHOD

QC1142286 Analyte	Result	Source Sample Result	Spiked	Units	Recovery	Qual	Limits	RPD	RPD Lim	DF
Fluoride	20.44	0.2271	20.00	mg/L	101%		80-120	1	20	1
Chloride	345.6	276.1	100.0	mg/L	70%	E,NM	80-120		20	1
Nitrogen, Nitrite	8.886	ND	9.134	mg/L	97%		80-120	1	20	1
Bromide	15.47	0.6077	15.00	mg/L	99%		80-120	6	20	1
Nitrogen, Nitrate	10.58	1.599	9.036	mg/L	99%		80-120	3	20	1
Sulfate	99.57	52.20	50.00	mg/L	95%		80-120		20	1

Type: Blank Lab ID: QC1142753 Batch: 337225

Matrix: Water Method: EPA 6020 Prep Method: EPA 3015A

QC1142753 Analyte	Result	Qual	Units	RL	Prepared	Analyzed
Antimony	ND		ug/L	2.0	04/08/24	04/08/24
Arsenic	ND		ug/L	2.0	04/08/24	04/08/24
Barium	ND		ug/L	5.0	04/08/24	04/08/24
Beryllium	ND		ug/L	1.0	04/08/24	04/08/24
Cadmium	ND		ug/L	1.0	04/08/24	04/08/24
Chromium	ND		ug/L	5.0	04/08/24	04/08/24
Cobalt	ND		ug/L	1.0	04/08/24	04/08/24
Copper	ND		ug/L	3.0	04/08/24	04/08/24
Lead	ND		ug/L	5.0	04/08/24	04/08/24
Molybdenum	ND		ug/L	5.0	04/08/24	04/08/24
Nickel	ND		ug/L	5.0	04/08/24	04/08/24
Selenium	ND		ug/L	2.0	04/08/24	04/08/24
Silver	ND		ug/L	5.0	04/08/24	04/08/24
Thallium	ND		ug/L	1.0	04/08/24	04/08/24
Vanadium	ND		ug/L	5.0	04/08/24	04/08/24
Zinc	ND		ug/L	10	04/08/24	04/08/24



Type: Lab Control Sample Lab ID: QC1142754 Batch: 337225

Matrix: Water Method: EPA 6020 Prep Method: EPA 3015A

QC1142754 Analyte	Result	Spiked	Units	Recovery Qual	Limits
Antimony	105.6	100.0	ug/L	106%	80-120
Arsenic	101.6	100.0	ug/L	102%	80-120
Barium	104.1	100.0	ug/L	104%	80-120
Beryllium	97.92	100.0	ug/L	98%	80-120
Cadmium	104.1	100.0	ug/L	104%	80-120
Chromium	102.5	100.0	ug/L	102%	80-120
Cobalt	109.2	100.0	ug/L	109%	80-120
Copper	105.3	100.0	ug/L	105%	80-120
Lead	100.9	100.0	ug/L	101%	80-120
Molybdenum	107.3	100.0	ug/L	107%	80-120
Nickel	105.1	100.0	ug/L	105%	80-120
Selenium	103.4	100.0	ug/L	103%	80-120
Silver	50.11	50.00	ug/L	100%	80-120
Thallium	100.6	100.0	ug/L	101%	80-120
Vanadium	103.8	100.0	ug/L	104%	80-120
Zinc	106.6	100.0	ug/L	107%	80-120

Type: Matrix Spike Lab ID: QC1142755 Batch: 337225
Matrix (Source ID): Water (505825-002) Method: EPA 6020 Prep Method: EPA 3015A

		Source Sample					
QC1142755 Analyte	Result	Result	Spiked	Units	Recovery C	ual Limits	DF
Antimony	83.01	0.8352	100.0	ug/L	82%	75-125	1
Arsenic	100.0	1.242	100.0	ug/L	99%	75-125	1
Barium	172.2	70.88	100.0	ug/L	101%	75-125	1
Beryllium	97.04	0.1296	100.0	ug/L	97%	75-125	1
Cadmium	101.6	0.2198	100.0	ug/L	101%	75-125	1
Chromium	107.3	5.701	100.0	ug/L	102%	75-125	1
Cobalt	111.9	2.925	100.0	ug/L	109%	75-125	1
Copper	123.2	17.91	100.0	ug/L	105%	75-125	1
Lead	107.4	5.824	100.0	ug/L	102%	75-125	1
Molybdenum	90.84	1.358	100.0	ug/L	89%	75-125	1
Nickel	111.9	5.002	100.0	ug/L	107%	75-125	1
Selenium	100.7	0.6482	100.0	ug/L	100%	75-125	1
Silver	48.92	0.03913	50.00	ug/L	98%	75-125	1
Thallium	99.75	0.1243	100.0	ug/L	100%	75-125	1
Vanadium	113.8	9.775	100.0	ug/L	104%	75-125	1
Zinc	394.8	284.6	100.0	ug/L	110%	75-125	1



Type: Matrix Spike Duplicate Lab ID: QC1142756 Batch: 337225

Matrix (Source ID): Water (505825-002) Method: EPA 6020 Prep Method: EPA 3015A

		Source Sample							RPD	
QC1142756 Analyte	Result	Result	Spiked	Units	Recovery	Qual	Limits	RPD	Lim	DF
Antimony	83.25	0.8352	100.0	ug/L	82%		75-125	0	20	1
Arsenic	101.7	1.242	100.0	ug/L	100%		75-125	2	20	1
Barium	171.6	70.88	100.0	ug/L	101%		75-125	0	28	1
Beryllium	102.6	0.1296	100.0	ug/L	102%		75-125	6	23	1
Cadmium	102.6	0.2198	100.0	ug/L	102%		75-125	1	21	1
Chromium	105.0	5.701	100.0	ug/L	99%		75-125	2	30	1
Cobalt	107.8	2.925	100.0	ug/L	105%		75-125	4	25	1
Copper	118.8	17.91	100.0	ug/L	101%		75-125	4	29	1
Lead	105.6	5.824	100.0	ug/L	100%		75-125	2	20	1
Molybdenum	85.37	1.358	100.0	ug/L	84%		75-125	6	20	1
Nickel	108.6	5.002	100.0	ug/L	104%		75-125	3	30	1
Selenium	101.2	0.6482	100.0	ug/L	101%		75-125	0	28	1
Silver	49.15	0.03913	50.00	ug/L	98%		75-125	0	29	1
Thallium	98.93	0.1243	100.0	ug/L	99%		75-125	1	20	1
Vanadium	111.2	9.775	100.0	ug/L	101%		75-125	2	31	1
Zinc	402.0	284.6	100.0	ug/L	117%		75-125	2	27	1

Type: Blank Lab ID: QC1142773 Batch: 337232

Matrix: Water Method: EPA 6020 Prep Method: EPA 3015A

QC1142773 Analyte	Result	Qual	Units	RL	Prepared	Analyzed
Antimony	ND		ug/L	2.0	04/08/24	04/08/24
Arsenic	ND		ug/L	2.0	04/08/24	04/08/24
Barium	ND		ug/L	5.0	04/08/24	04/08/24
Beryllium	ND		ug/L	1.0	04/08/24	04/09/24
Cadmium	ND		ug/L	1.0	04/08/24	04/08/24
Chromium	ND		ug/L	5.0	04/08/24	04/08/24
Cobalt	ND		ug/L	1.0	04/08/24	04/08/24
Copper	ND		ug/L	3.0	04/08/24	04/08/24
Lead	ND		ug/L	5.0	04/08/24	04/08/24
Molybdenum	ND		ug/L	5.0	04/08/24	04/09/24
Nickel	ND		ug/L	5.0	04/08/24	04/08/24
Selenium	ND		ug/L	2.0	04/08/24	04/08/24
Silver	ND		ug/L	5.0	04/08/24	04/08/24
Thallium	ND		ug/L	1.0	04/08/24	04/08/24
Vanadium	ND		ug/L	5.0	04/08/24	04/08/24
Zinc	ND		ug/L	10	04/08/24	04/08/24



Type: Lab Control Sample Lab ID: QC1142774 Batch: 337232 Matrix: Water Method: EPA 6020 Prep Method: EPA 3015A

QC1142774 Analyte	Result	Spiked	Units	Recovery Qual	Limits
Antimony	108.2	100.0	ug/L	108%	80-120
Arsenic	100.2	100.0	ug/L	100%	80-120
Barium	104.1	100.0	ug/L	104%	80-120
Beryllium	110.4	100.0	ug/L	110%	80-120
Cadmium	105.6	100.0	ug/L	106%	80-120
Chromium	100.1	100.0	ug/L	100%	80-120
Cobalt	105.7	100.0	ug/L	106%	80-120
Copper	104.1	100.0	ug/L	104%	80-120
Lead	102.1	100.0	ug/L	102%	80-120
Molybdenum	103.8	100.0	ug/L	104%	80-120
Nickel	104.5	100.0	ug/L	104%	80-120
Selenium	102.2	100.0	ug/L	102%	80-120
Silver	51.82	50.00	ug/L	104%	80-120
Thallium	101.9	100.0	ug/L	102%	80-120
Vanadium	101.9	100.0	ug/L	102%	80-120
Zinc	102.0	100.0	ug/L	102%	80-120

Type: Matrix Spike Lab ID: QC1142775 Batch: 337232

Matrix (Source ID): Water (505831-001) Method: EPA 6020 Prep Method: EPA 3015A

		Source Sample						
QC1142775 Analyte	Result	Result	Spiked	Units	Recovery	Qual	Limits	DF
Antimony	108.3	0.9828	100.0	ug/L	107%		75-125	1
Arsenic	109.0	5.498	100.0	ug/L	103%		75-125	1
Barium	106.3	3.496	100.0	ug/L	103%		75-125	1
Beryllium	114.4	ND	100.0	ug/L	114%		75-125	1
Cadmium	102.8	ND	100.0	ug/L	103%		75-125	1
Chromium	100.6	0.3820	100.0	ug/L	100%		75-125	1
Cobalt	104.5	ND	100.0	ug/L	104%		75-125	1
Copper	102.9	0.2958	100.0	ug/L	103%		75-125	1
Lead	101.9	0.2005	100.0	ug/L	102%		75-125	1
Molybdenum	122.9	3.703	100.0	ug/L	119%		75-125	1
Nickel	102.4	0.2155	100.0	ug/L	102%		75-125	1
Selenium	98.34	ND	100.0	ug/L	98%		75-125	1
Silver	49.64	ND	50.00	ug/L	99%		75-125	1
Thallium	99.79	ND	100.0	ug/L	100%		75-125	1
Vanadium	104.5	0.8074	100.0	ug/L	104%		75-125	1
Zinc	104.7	5.155	100.0	ug/L	100%		75-125	1



Type: Matrix Spike Duplicate Lab ID: QC1142776 Batch: 337232

Matrix (Source ID): Water (505831-001) Method: EPA 6020 Prep Method: EPA 3015A

		Source Sample							RPD	
QC1142776 Analyte	Result	Result	Spiked	Units	Recovery	Qual	Limits	RPD	Lim	DF
Antimony	109.1	0.9828	100.0	ug/L	108%		75-125	1	20	1
Arsenic	109.6	5.498	100.0	ug/L	104%		75-125	1	20	1
Barium	107.1	3.496	100.0	ug/L	104%		75-125	1	28	
Beryllium	114.4	ND	100.0	ug/L	114%		75-125	0	23	1
Cadmium	103.9	ND	100.0	ug/L	104%		75-125	1	21	1
Chromium	100.5	0.3820	100.0	ug/L	100%		75-125	0	30	1
Cobalt	105.3	ND	100.0	ug/L	105%		75-125	1	25	1
Copper	102.7	0.2958	100.0	ug/L	102%		75-125	0	29	1
Lead	106.3	0.2005	100.0	ug/L	106%		75-125	4	20	1
Molybdenum	111.2	3.703	100.0	ug/L	108%		75-125	10	20	1
Nickel	101.9	0.2155	100.0	ug/L	102%		75-125	0	30	1
Selenium	98.65	ND	100.0	ug/L	99%		75-125	0	28	1
Silver	50.38	ND	50.00	ug/L	101%		75-125	1	29	1
Thallium	104.1	ND	100.0	ug/L	104%		75-125	4	20	1
Vanadium	105.1	0.8074	100.0	ug/L	104%		75-125	1	31	1
Zinc	105.8	5.155	100.0	ug/L	101%		75-125	1	27	1

Type: Blank Lab ID: QC1142661 Batch: 337203

Matrix: Water Method: EPA 7470A Prep Method: METHOD

QC1142661 Analyte	Result	Qual	Units	RL	Prepared	Analyzed
Mercury	ND		ug/L	0.40	04/08/24	04/09/24

Type: Lab Control Sample Lab ID: QC1142662 Batch: 337203

Matrix: Water Method: EPA 7470A Prep Method: METHOD

QC1142662 Analyte	Result	Spiked	Units	Recovery Qual	Limits
Mercury	5.272	5.000	ug/L	105%	80-120

Type: Matrix Spike Lab ID: QC1142680 Batch: 337203

Matrix (Source ID): Water (505747-001) Method: EPA 7470A Prep Method: METHOD

Source Sample QC1142680 Analyte Result **Spiked** Units Recovery Qual Limits DF Result Mercury 5.044 0.6308 5.000 ug/L 88% 75-125

Type: Matrix Spike Duplicate Lab ID: QC1142681 Batch: 337203

Matrix (Source ID): Water (505747-001) Method: EPA 7470A Prep Method: METHOD

Source **RPD** Sample **RPD** QC1142681 Analyte Result Result **Spiked** Units Recovery Qual Limits Lim DF 4.871 0.6308 5.000 85% 75-125 3 20 Mercury ug/L 1



Type: Matrix Spike Lab ID: QC1143167 Batch: 337362

Matrix (Source ID): Drinking Water (505849-003) Method: SM 4500-NH3-G Prep Method: METHOD

Source

QC1143167 Analyte	Result	Result	Spiked	Units	Recovery	Qual	Limits	DF
Ammonia-N	4.456	0.07496	5.000	mg/L	88%		80-120	2

Type: Matrix Spike Duplicate Lab ID: QC1143168 Batch: 337362

Matrix (Source ID): Drinking Water (505849-003) Method: SM 4500-NH3-G Prep Method: METHOD

Source

Sample **RPD** QC1143168 Analyte Result Result Spiked Units Recovery Qual Limits **RPD** Lim DF Ammonia-N 4.544 0.07496 5.000 89% 80-120 2 20 2 mg/L

Type: Lab Control Sample Lab ID: QC1143169 Batch: 337362

Matrix: Water Method: SM 4500-NH3-G

QC1143169 AnalyteResultSpikedUnitsRecoveryQualLimitsAmmonia-N2.2642.500mg/L91%80-120

Type: Blank Lab ID: QC1143170 Batch: 337362

Matrix: Water Method: SM 4500-NH3-G

 QC1143170 Analyte
 Result
 Qual
 Units
 RL
 Prepared
 Analyzed

 Ammonia-N
 ND
 mg/L
 0.10
 04/14/24
 04/14/24

Type: Matrix Spike Lab ID: QC1143645 Batch: 337504

Matrix (Source ID): Water (506156-001) Method: SM 4500-NH3-G

Source Sample

QC1143645 Analyte Result Result Spiked **Units** Recovery Qual Limits DF Ammonia-N 4.642 0.08485 5.000 mg/L 91% 80-120 2

Type: Matrix Spike Duplicate Lab ID: QC1143646 Batch: 337504

Matrix (Source ID): Water (506156-001) Method: SM 4500-NH3-G

Source

RPD Sample QC1143646 Analyte **RPD** DF Result **Spiked** Units Recovery Qual Limits Lim Result Ammonia-N 4.696 0.08485 5.000 mg/L 92% 80-120 20 2



Type: Matrix Spike Lab ID: QC1143647 Batch: 337504

Matrix (Source ID): Water (505985-001) Method: SM 4500-NH3-G Prep Method: METHOD

Source

QC1143647 Analyte	Result	Result	Spiked	Units	Recovery	Qual	Limits	DF
Ammonia-N	7.869	3.151	5.000	mg/L	94%		80-120	2

Type: Matrix Spike Duplicate Lab ID: QC1143648 Batch: 337504

Matrix (Source ID): Water (505985-001) Method: SM 4500-NH3-G Prep Method: METHOD

Source

		Sample							RPD	
QC1143648 Analyte	Result	Result	Spiked	Units	Recovery	Qual	Limits	RPD	Lim	DF
Ammonia-N	7.660	3.151	5.000	mg/L	90%		80-120	3	20	2

Type: Lab Control Sample Lab ID: QC1143649 Batch: 337504

Matrix: Water Method: SM 4500-NH3-G

QC1143649 Analyte	Result	Spiked	Units	Recovery Qual	Limits
Ammonia-N	2.339	2.500	mg/L	94%	80-120

Type: Blank Lab ID: QC1143650 Batch: 337504

Matrix: Water Method: SM 4500-NH3-G

 QC1143650 Analyte
 Result
 Qual
 Units
 RL
 Prepared
 Analyzed

 Ammonia-N
 ND
 mg/L
 0.10
 04/14/24
 04/14/24

Type: Blank Lab ID: QC1143774 Batch: 337531

Matrix: Water Method: SM 4500-P-B5-E

 QC1143774 Analyte
 Result
 Qual
 Units
 RL
 Prepared
 Analyzed

 Phosphorus
 ND
 mg/L
 0.020
 04/11/24
 04/15/24

Type: Lab Control Sample Lab ID: QC1143775 Batch: 337531

Matrix: Water Method: SM 4500-P-B5-E

QC1143775 AnalyteResultSpikedUnitsRecoveryQualLimitsPhosphorus0.36900.4000mg/L92%80-120

Type: Matrix Spike Lab ID: QC1143776 Batch: 337531

Matrix (Source ID): Water (506156-004) Method: SM 4500-P-B5-E

Source

Sample QC1143776 Analyte Result Spiked Recovery Limits DF Result Units Qual Phosphorus 0.3480 ND 0.4000 mg/L 87% 75-125



Type: Matrix Spike Duplicate Lab ID: QC1143777 Batch: 337531

Matrix (Source ID): Water (506156-004) Method: SM 4500-P-B5-E

Source

		Sample							RPD	
QC1143777 Analyte	Result	Result	Spiked	Units	Recovery	Qual	Limits	RPD	Lim	DF
Phosphorus	0.3480	ND	0.4000	mg/L	87%		75-125	0	20	1

Type: Blank Lab ID: QC1142317 Batch: 337128

Matrix: Drinking Water Method: SM2320B Prep Method: METHOD

QC1142317 Analyte	Result	Qual	Units	RL	Prepared	Analyzed
Bicarbonate	ND		mg/L	2.0	04/05/24	04/05/24
Carbonate	ND		mg/L	1.2	04/05/24	04/05/24
Hydroxide	ND		mg/L	0.70	04/05/24	04/05/24
Alkalinity, Total as CaCO3	ND		mg/L	2.0	04/05/24	04/05/24

Type: Lab Control Sample Lab ID: QC1142318 Batch: 337128

Matrix: Drinking Water Method: SM2320B Prep Method: METHOD

QC1142318 Analyte	Result	Spiked	Units	Recovery Qual	Limits
Alkalinity, Total as CaCO3	1,058	1000	mg/L	106%	90-110

Type: Sample Duplicate Lab ID: QC1142896 Batch: 337128

Matrix (Source ID): Water (505749-003) Method: SM2320B Prep Method: METHOD

Source

		Sample				RPD	
QC1142896 Analyte	Result	Result	Units	Qual	RPD	Lim	DF
Bicarbonate	26.87	27.38	mg/L		2	20	1
Carbonate	ND	ND	mg/L			20	1
Hydroxide	ND	ND	mg/L			20	1
Alkalinity, Total as CaCO3	22.03	22.44	mg/L		2	20	1

Type: Blank Lab ID: QC1142989 Batch: 337161

Matrix: Drinking Water Method: SM2540C Prep Method: METHOD

QC1142989 Analyte	Result	Qual	Units	RL	Prepared	Analyzed
Total Dissolved Solids	ND		mg/L	10	04/09/24	04/10/24

Type: Sample Duplicate Lab ID: QC1142990 Batch: 337161
Matrix (Source ID): Water (505749-001) Method: SM2540C Prep Method: METHOD

Source

		Sample				RPD	
QC1142990 Analyte	Result	Result	Units	Qual	RPD	Lim	DF
Total Dissolved Solids	796.0	804.0	mg/L		1	5	2



Type: Sample Duplicate Lab ID: QC1142991 Batch: 337161 Matrix (Source ID): Water (505893-002) Method: SM2540C **Prep Method: METHOD**

> Source Sample

RPD QC1142991 Analyte Result Result Units Qual **RPD** Lim DF Total Dissolved Solids 646.0 656.0 mg/L 2 5 2

Type: Lab Control Sample Lab ID: QC1143005 Batch: 337161 Matrix: Drinking Water Method: SM2540C Prep Method: METHOD

QC1143005 Analyte	Result	Spiked	Units	Recovery Qual	Limits
Total Dissolved Solids	964.0	1000	mg/L	96%	90-110

Value is outside QC limits

range

NM Not Meaningful

Response exceeds instrument's linear

ND Not Detected